Complete Summary

GUIDELINE TITLE

Reflux nephropathy.

BIBLIOGRAPHIC SOURCE(S)

Thomas M. Reflux nephropathy. Nephrology 2006 Apr;11(S1):S175-81.

Thomas M. Reflux nephropathy. Westmead NSW (Australia): CARI - Caring for Australasians with Renal Impairment; 2005 Sep. 11 p. [20 references]

GUIDELINE STATUS

This is the current release of the guideline.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

- Vesicoureteric reflux
- Reflux nephropathy

GUIDELINE CATEGORY

Management
Treatment

CLINICAL SPECIALTY

Family Practice
Nephrology

Pediatrics
Urology

INTENDED USERS

Physicians

GUIDELINE OBJECTIVE(S)

To summarize evidence for the utility of interventions to prevent chronic renal impairment in patients with primary vesicoureteric reflux

TARGET POPULATION

Children with vesicoureteric reflux disease

INTERVENTIONS AND PRACTICES CONSIDERED

Treatment

1. Surgical intervention for vesicoureteric reflux (VUR)
2. Medical management of VUR
3. Antibiotic prophylaxis
4. Supportive care

MAJOR OUTCOMES CONSIDERED

- Asymptomatic bacteriuria
- Urinary tract infection
- Urosepsis
- Pyelonephritis
- Progressive reflux disease
- Progressive kidney disease
- Adverse effects of treatment

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Databases searched: MeSH terms and text words for reflux nephropathy. This search was carried out in Medline (1966 to September Week 1, 2004). The Cochrane Renal Group Trials Register was also searched for reflux nephropathy trials not indexed in Medline.

Date of searches: 7 September 2004.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Levels of Evidence

Level I: Evidence obtained from a systematic review of all relevant randomized controlled trials (RCTs)

Level II: Evidence obtained from at least one properly designed RCT

Level III: Evidence obtained from well-designed pseudo-randomized controlled trials (alternate allocation or some other method); comparative studies with concurrent controls and allocation not randomized, cohort studies, case-control studies, interrupted time series with a control group; comparative studies with historical control, two or more single arm studies, interrupted time series without a parallel control group

Level IV: Evidence obtained from case series, either post-test or pretest/post-test

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Comparison with Guidelines from Other Groups
Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Recommendations of Others. Recommendations regarding reflux nephropathy from the following groups were discussed: Kidney Disease Outcomes Quality Initiative, UK Renal Association, Canadian Society of Nephrology, European Best Practice Guidelines, and International Guidelines.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Definitions for the levels of evidence (I–IV) can be found at the end of the "Major Recommendations" field.

Guidelines

a. Standard surgical intervention is not superior to medical management in preventing the progression to end-stage kidney disease (ESKD) in children with severe reflux disease. (Level I evidence)
b. Antibiotic prophylaxis is not superior to supportive care in preventing urinary tract infections or renal parenchymal injury in children with vesicoureteric reflux (VUR). (Level II evidence)

Suggestions for Clinical Care

(Suggestions are based on Level III and IV evidence)

- A rationale for any intervention is only provided by the risk for adverse outcomes resulting from non-intervention. While young children with stage I or II VUR (reflux to the ureter or renal pelvis without ureteral dilatation) occasionally form new scars despite medical therapy, these children are not at risk for severe renal disease and spontaneous resolution of the reflux occurs in approximately 80% in 5 years. As a consequence, there is no indication for intervention in this setting to prevent progressive kidney impairment.
- The optimal treatment (surgical vs medical) of gross reflux, with or without scarring, is uncertain. Given the general lack of direct evidence that any treatment option is superior to another, the clinician should provide parents with information about the known benefits and harms of available options and facilitate discussion regarding the intervention. At present, it is not clear whether any intervention for children with primary VUR confers any benefit.

Moreover, it is not clear whether antibiotics alone or reimplantation surgery alone are most effective in reducing the risk of urinary tract infections (UTI) and renal parenchymal abnormality. Because of this data and the tendency for many cases of reflux to resolve, many patients with reflux are initially treated on an observation medical protocol including periodic urine cultures to detect asymptomatic bacteriuria. Algorithms based on parental preference have been devised but not as yet tested in clinical trials.

- Although UTI does not appear to influence progression of reflux disease, urosepsis can account for partially reversible (acute on chronic) renal impairment. Patients with renal impairment have an increased frequency of septicaemia, complications and poor outcomes with urinary infection. Higher proportions of women with pyelonephritis have been reported to heal with renal scarring if initiation of therapy is delayed. Consequently, urosepsis should be treated early and aggressively in patients with renal impairment (taking into account the toxicity of antibiotic treatments). Bacteriological clearance should also be confirmed, as relapse is also more common in patients with VUR.

Definitions:

Levels of Evidence

Level I: Evidence obtained from a systematic review of all relevant randomized controlled trials (RCTs)

Level II: Evidence obtained from at least one properly designed RCT

Level III: Evidence obtained from well-designed pseudo-randomized controlled trials (alternate allocation or some other method); comparative studies with concurrent controls and allocation not randomized, cohort studies, case-control studies, interrupted time series with a control group; comparative studies with historical control, two or more single arm studies, interrupted time series without a parallel control group

Level IV: Evidence obtained from case series, either post-test or pretest/post-test

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Appropriate management of children with vesicoureteric reflux and reflux nephropathy

POTENTIAL HARMS

Not stated

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Living with Illness

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2006 Apr

GUIDELINE DEVELOPER(S)

Caring for Australasians with Renal Impairment - Disease Specific Society

SOURCE(S) OF FUNDING

Industry-sponsored funding administered through Kidney Health Australia

GUIDELINE COMMITTEE

Not stated

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Author: Merlin Thomas

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

All guideline writers are required to fill out a declaration of conflict of interest.

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the Caring for Australasians with Renal Impairment Web site.

Print copies: Available from Caring for Australasians with Renal Impairment, Locked Bag 4001, Centre for Kidney Research, Westmead NSW, Australia 2145

AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- The CARI guidelines. A guide for writers. Caring for Australasians with Renal Impairment. 2006 May. 6 p.

Electronic copies: Available from the Caring for Australasians with Renal Impairment (CARI) Web site.

PATIENT RESOURCES

None available

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